

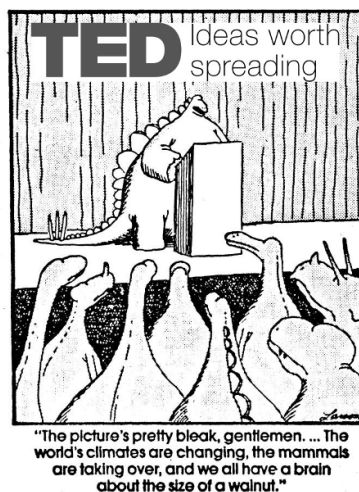
Climate change tragedy and social collapse

The evidence before us suggests that we are set for disruptive and uncontrollable levels of climate change, bringing starvation, destruction, migration, disease and war...
~ Jem Bendell¹

There are even more pessimistic takes. Guy McPherson, a professor emeritus of natural resources at the University of Arizona, contends climate change will cause civilization to collapse not long after the summer Arctic ice cover disappears. He argues that could happen as early as next year, sending global temperatures abruptly higher and causing widespread food and fuel shortages within a year.
~ Christopher Flavelle²

I don't really have beliefs about climate change, I wouldn't say. I think the climate is probably warming, but it's been warming since the last ice age...
~ Jordan B. Peterson³

It has been good for our survival that a part of our brain has evolved to distort reality in favor of optimism. Epistemically, however, this is bad news.
~ Bianco Luno



¹ [“Deep Adaptation: A Map for Navigating Climate Tragedy”](#) by sustainability and leadership Professor [Jem Bendell](#) is the trigger inspiration for this writeup. If you only have time to check one reference I suggest this paper. You can also listen to it as an mp3 [podcast](#).

² [“New Climate Debate: How to Adapt to the End of the World: Researchers are thinking about social collapse and how to prepare for it.”](#) Christopher Flavelle, *Bloomberg Businessweek*, 26 September 2018.

³ [“Why does Jordan Peterson deny climate change, given that he seems to respect scientific empiricism?”](#) Quora post.

The situation

Some experts and thinkers in climate science, geophysics, ecology, paleontology, leadership and sustainability, social science, public policy research, etc., including philosophy, have expressed concern recently that collective human experience is about to undergo radical transformation. And not in a good way.

Notice, I said “some.” I didn’t say all. There are plenty of dissenters who believe that, while climate change is real enough, “climate tragedy” is overstating the case, or that while social collapse or extinction may be more than a mere possibility they are not probable, at least in the “short term.” These proverbial “cool heads” still think we have a century or more to work with before really bad and irreversible things start to happen. We are not now here discussing the conflict between climate change “deniers” and the consensus in the scientific community that climate change is real, but rather between the latter and those that believe the radical consequences of climate change are approaching *much faster* than we have been led to believe over the past few decades until very recently: the issue is between the “cool heads” and the “alarmists.”

To be safe in raising philosophical dust around this issue, let’s assume the “alarmists”—who suggest we don’t have a hundred years or so, but more in the neighborhood of a few decades or less—are a minority. The *philosophical* claim made here is that it is *still* worth taking these worries of catastrophe seriously. Why?

There is a conjunction of observations that should give us pause and which we’ll discuss in some detail later, but here is a synopsis:

1. The possibility of, at least, social collapse if not extinction, in the near term is *not* nil.
2. Moreover, it is more than a *mere* logical possibility (that much has never been disputed by anyone). Given even a conservative interpretation of the relevant science, there is a non-negligible probability measure assigned to it. No, not a high probability, but it would be foolish, given our admitted ignorance of the complete physical situation, to say there is *only* a logical possibility and nothing more.
3. The data to support a probability measure is an empirical matter and is best left to scientists—and *not*, it is important to note, merely to, say, climate scientists or geophysicists, but to biological, social, psychological, historical, and political sciences

as well. Why? Because social collapse is as much a function of human and animal reactions to catastrophic experience as to atmospheric chemistry.

4. But where does philosophy come in? It comes in because one of its traditional pastimes has been to assess the rationality of human decision-making, not so much the practice of rational decision-making, but its theory. What can cause rational decision-making to breakdown or become useless? Everyday decisions are not in question here. They are not very philosophically interesting because they involve finite or familiar consequences. What makes them tractable is also what makes them philosophically uninteresting.
5. But when *singular* factors⁴ weigh in our decisions, things get philosophical in hurry. Blaise Pascal, the 17th Century French philosopher, famously noticed this in connection with the rationality of belief in God. The *singularity* of the concept of infinity plays havoc with the degree of conviction we should have. The application here is that the *singularity* of the concepts of *total civilizational collapse* or *our extinction* force us to consider arguments that we might otherwise dismiss as academic or wish to put off until we know more.
6. The claims made by some alarmists have this troublesome, Pascalian structure. Most improbable outcomes are difficult to defend as objects of deep concern. But others—those with singularities in their structure or content—are another matter.
7. Analogues to total (or near-total) civilizational collapse or outright extinction of our species in the individual would include things like birth, death, or loss of virginity. *They happen only once.* (Unless you believe in reincarnation or you are a house cat.) You don't have the empirical luxury of long, intimate experience with singularities—*by definition*.
8. Hence, a non-negligible probability of total civilizational collapse or extinction leaves us with something to ponder seriously.

Finally, combine the above with [recent findings](#) from neuroscience that suggest that a portion of our brain (the *left inferior frontal gyrus*) has evolved to filter out information about the world that does not conform to our expectations and desires, in effect, that our brains incline us toward optimism⁵... and we have the perfect storm. The world out there of geophysics and biochemistry and the world inside of our skull of naturally selected for neuronal behavior

⁴ See Appendix note on the use of the concept of singularity in this context.

⁵ For reasons that are not too difficult to surmise evolutionarily, optimism is a good thing—“[on average usually](#).” But optimism hits the rocks confronted with singularity.

appear to be conspiring against us. Nature or objective reality (to the extent we can fathom such constructs) knows nothing of pessimism or optimism. One day we are here and one day we are not. And that is the good news. The worse news is that there may be, so the adaptationists suggest, an indeterminate period of increasing misery *in between* those days.

What there is of science bearing on the question whether to believe or not to believe the end is nigh

Rumor has it in the climate science community, not that the weather will be different tomorrow, but that the world *as we have known it* is coming to an end—like soon, like within the lifetime of most people reading this. We'll assume these claims:

False: There is no consensus amongst climate scientists about global warming.

True: There is no consensus amongst climate scientists about *the speed* of global warming.⁶

The first because most experts agree with it, the second because this phenomenon of indecision can even be observed by the non-scientist.

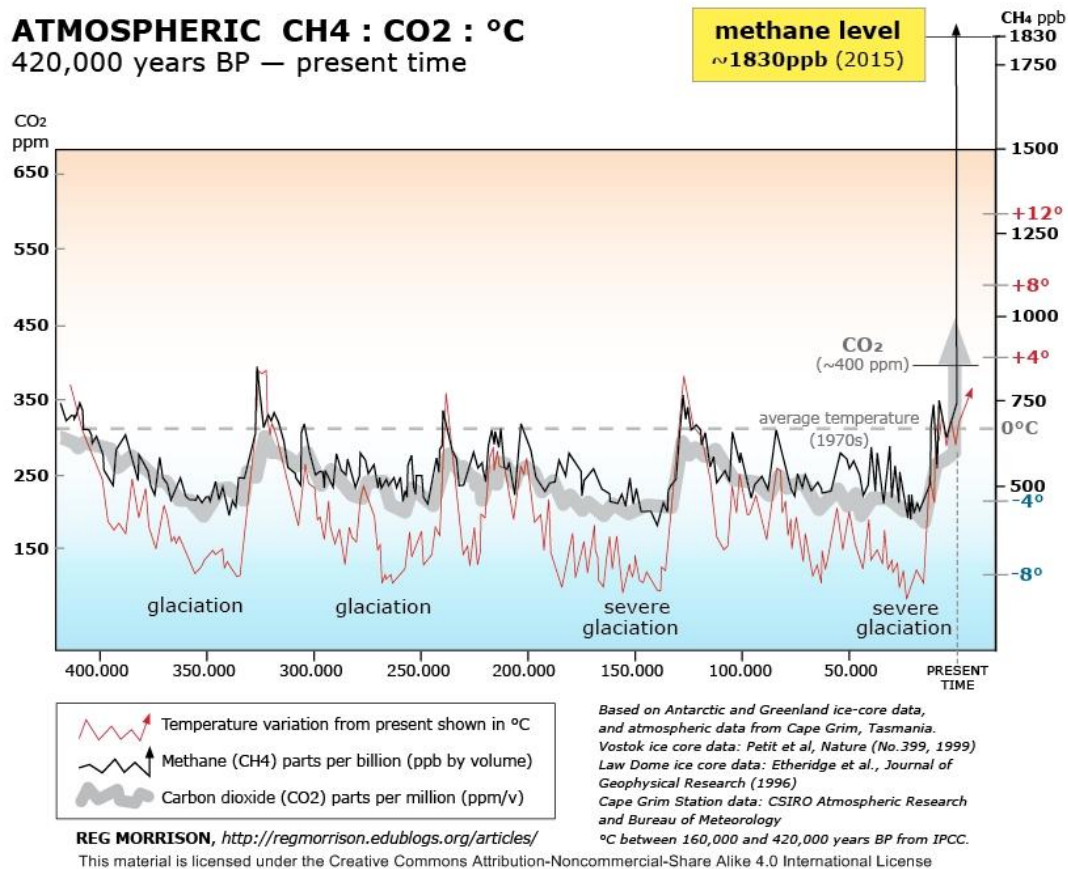
Jem Bendell has offered to connect the dots for us. The picture is not pretty. The professor of geography, sustainability, and policy leadership has arrived at the conclusion—after decades of research and experience translating between scientists and public and private policy makers—that we are in for *social collapse* big time—and not sometime in “the distant offing,” but within the life time of the readers of his jeremiad, “[Deep Adaptation](#).” We ought indeed to do what we can to mitigate the severity of the inevitable but there is no stopping it now. We should start getting used to the fact that our future, not just that of our descendents, is going to be a lot more modest than dominant institutions have heretofore led us to believe.

Let's repeat: *the world as we have known it is coming to an end within the lifetime of most readers of this revelation*. This is the realization of a growing number of respectable climate scientists. It is not the old claim that climate change would affect future generations. That claim is *wrong* these thinkers are saying. There *won't be* future generations, in the facile sense we were once permitted to assume there would be. In fact, bad as they are, it would only make matters worse if there were. *The poor will die. The rich will wish they were dead*. Here's what is likely in the next few *decades*, not centuries... but first...

⁶ Compare, for example, the views of two eminent climate scientists, [Michael Mann](#) and [Peter Wadham](#).

Another attempt to introduce this topic

Is it wrong to yell “Fire!” in a crowded theater if—to the best of your ability to discern—there *really* is a fire in the theater? The legal answer is plain, no. Morally? It depends. This is one way philosophy gets involved. Consequentialist moral theory requires you to weigh possible harms that may come with telling the truth. Deontological moral theory insists that consequences of truth-telling, good or bad, mean nothing. Respect due the rationally autonomous trumps harm-prevention. Who will you listen to? The powers that be (governments, institutions, policy-makers, including many, but not all, scientists, etc.), rightly or wrongly, have thought we cannot handle certain information ungilded with sober hems and haws... They want to do *more* than inform us. They want to tell us what conclusions to draw.⁷



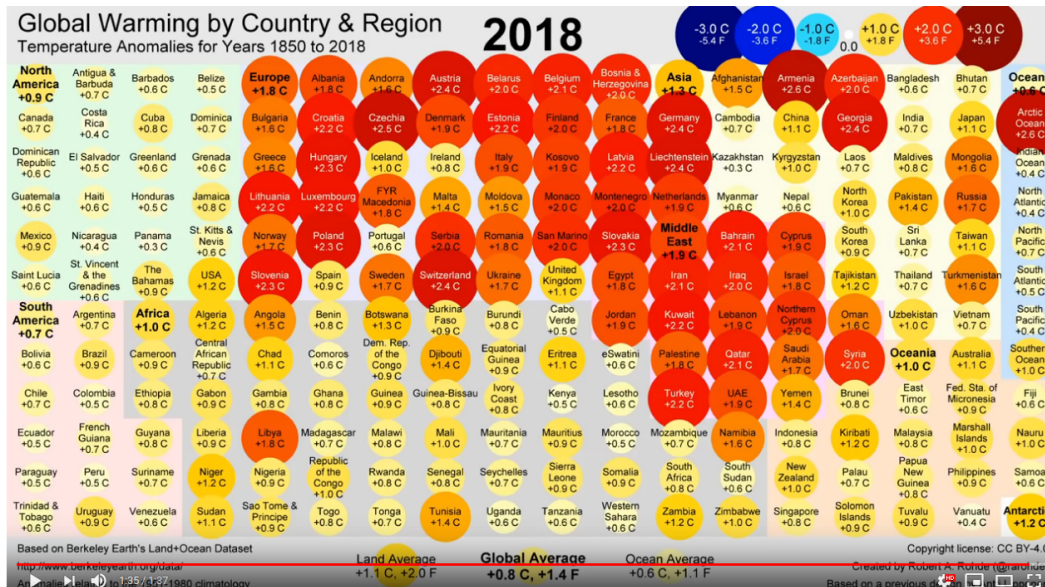
⁷ Eminent climate scientist, Michael Mann, for example, whose views we discuss below.

A few decades ago, well-meaning scientists called attention to atmospheric gases that were causing the mean global temperature to rise. If it were to rise as high as 2 degrees Celsius above what it was then, the resulting climate change would have catastrophic effects on living things. Polar ice would melt, sea levels would rise, storms would become more severe, droughts more intense, forests would burn in places unheard of and burn hotter in those places heard of, etc. *But, most importantly, food sources for humans and animals would be undergo radical disruption and depletion.* There would be starvation where now there is subsistence. There would be mere subsistence where now there is plenty. With that would come widespread human migration, social tension, then mass crime, and then war. Then even war will be hard to prosecute. *There would be world-scale social collapse.*

How much can you afford to care about social, economic, political, or physical infrastructure when your next meal is unassured? Among the many imaginable consequences, dangerous human artifacts, such as nuclear power plants may go critical rapidly without the deep institutional support necessary to keep them steady... The possibility of human extinction would be very real.

Back then, few in a position to know these things were so explicit about these dire consequences. There was, after all, some good news *back then*. The heat-trapping gas of most concern then, carbon dioxide (CO₂), seemed to be largely and directly anthropogenic. The rate at which it causes climate change was directly related to human activity.⁸ And, if that was so, human action might mitigate, if not fix, the worst of it. There was hope. We just needed to get our act together, globally. (We haven't, by the way, "gotten our act together, globally," far from it, but we may now be past the point of justifying that as our exclusive ecological worry.)

⁸ Not everyone agrees. Former Greenpeace activist Patrick Moore, for instance, thinks that CO₂ is rather the effect than the cause of temperature rise, see [his talk here](#). He also suggests that the current temperature rise is nothing special in the history of life. Plenty of "living things" have survived extreme temperature rises far in excess of anything we are experiencing now. Sadly, though, so far, there is no evidence that organisms as complex and demanding as we have survived such radical environmental change. *We have evolved the desire that our civilization survive, not just our genes.* The adaptationists want us to consider resigning ourselves to the unlikeliness of this occurring.



[Watch global warming happen before your very eyes...2018 Switchboard Movie](#)

In the last decade or so, however, it's become clear that CO₂ is *not* the gas of proximate concern. Its effect, the 2 degree global temperature rise, was a century off. If it were the main greenhouse gas to worry about, we might have time. Some scientists at the beginning of climate change concern were not so sure that even if we could manage to tame the production of CO₂, that alone would be sufficient to stabilize the climate. But they were in the minority. *Proper scientific caution combined with unscientific but only too human optimism combined to keep the focus on the malleable—the problem we conceivably might have a solution for.* The possibility that CO₂ might just be just a match to light a fuse to a bigger environmental bomb was too hard to contemplate.

Something else was *brewing*, literally, on formerly ice-covered polar regions of the earth. The somewhat more predictable effects of CO₂ are not, it is turning out, the real worry. Another greenhouse gas, methane (CH₄), *about 20-30 times more potent as a heat-trapping agent than CO₂*, is the urgent concern. Methane is being released in record and accelerating amounts from arctic areas formerly covered by ice—the ice that the CO₂ was complicit in melting. The result is a runaway effect. The carbon in the atmosphere, much of it anthropogenic, did indeed get things started. It warmed up things a bit, just enough to get methane production going. But the rest is basic biology doing its decomposition thing. And it will be the methane that may take us out sooner, much sooner, if some climate watchers are right—not later, as we had been led to believe.

The methane comes from rapid microbial digestion of organic material that has been buried under ice for millions of years. The rise in temperature has increased exponentially the speed

of this breakdown of organic material. Back when we thought CO₂ was thought the chief agent of climate change, we knew about the methane but it was then present in the atmosphere only in trace amounts relative to CO₂. The data is pouring in everywhere we look. The methane is coming fast, and accelerating itself as it comes: it is more efficient than CO₂ at creating the conditions for snow and ice to melt quicker. This reduces the total amount of solar reflection, heating things up faster, which releases more methane, and so on. That 2 degree temperature rise is a decade or two, at most, away, they are saying. Some are predicting a 4 or more degree temperature rise by 2100. Not much living now with the wherewithal to worry (that means us) will survive that.

But social collapse will happen long before our extinction event.

What does social collapse look like? Rupert Read (Cambridge philosopher and UK Green Party politician, in his [talk here](#)) suggests thinking about what is happening now in Syria, Yemen, or Venezuela.

Nature and we might adapt if it wasn't for *the speed* of these changes. We might otherwise come up with technological fixes or mitigations or flight plans. The only thing comparable to the speed of this environmental change in earth history are the results of big rocks from space or major magmatic punctures of the earth's crust from below.⁹

So...

How should we react? Mitigation, enfeebled as it might be at this point, is still a responsible thing to do, in the way "duck and cover" or bracing yourself in a doorway might well be rational, if last ditch, moves, if you are lucky (or unlucky) enough to have a few seconds of advance warning before a nuclear blast or an earthquake.¹⁰ But even more responsible is to begin learning what we must do to *adapt* to "inevitable social collapse, probable catastrophe, and possible extinction." That's what Jem Bendell means by "deep adaptation." This is where he comes in with a few suggestions in his paper of the same name. Are they reasonable? Is he missing something? Something *big*? (It pretty much *has* to be something big, as he himself admits.) Or is he wasting our time?

...

Of special interest to a philosopher about all this is the conflict between the demands of survival, on the one hand, and epistemic integrity, on the other. "Who has time for 'epistemic

⁹ And we know that one of those two events (or both) wiped out the dinosaurs.

¹⁰ In the spirit of "[The House in Middle](#)." You don't want to make matters worse by not keeping a tidy yard in the event of a nuclear blast.

integrity’—whatever that is—when the world is coming to an end?” I hear someone say. Actually, even in the rosiest scenario, that somehow the methane scare is just a bit of bad science, the epistemic debility will survive along with us to plague us another day. If we are extremely lucky, the present alarm is only a wake up call. But unless we are missing something very large, our luck seems to be running out if we were expecting to linger here *civilizationally* intact much longer.

The epistemic debility is this: we are learning that our brains are [not naturally suited to the truth](#). (This has come up in [our discussion of romantic love](#) and will again when we get to my next topic on naturalism. Compare Tali Sharot’s notion of [optimism bias](#) and Dorothy Tennov’s work on [limerance](#).) In fact, it is endemic to almost all our thinking about anything, the more so the more serious. We (= our brains) discount negative information even when we know it’s true. Who needs “fake news” when even “real news” is blown off?

The world was going to end someday anyway. But if we had taken account of the fact that a part of our brain is specialized to distort reality in favor of near-term—and *only* near-term—survival and well-being, we might have been caught a little less off guard by this development. (This is an *epistemic* and *ethical* issue.)

Assuming this description of our predicament is correct, does it matter *anymore*? Bendell, Read, and others think it does. We will look into why one might think there is a right and a wrong way to face the end—or, whatever follows social collapse... (This would be squarely an *ethical* issue.)

Bendell, along with other scientists and thinkers, including philosopher of science [Rupert Read](#), take social collapse to be a foregone conclusion. Of concern now should be the attitude we take to it. Shall we allow ourselves to be paralyzed by fear? Shall we dig in and deny it? Or shall we attempt something more graceful?

Bendell and company suggests that whatever values we have taken or tried to take seriously up to now should remain operative. Perhaps, more than ever...

Criticism

A club member writes:

Victor,

If I'm correct, it looks like your material ultimately comes from Guy McPherson. McPherson is NOT a climate scientist, he is an ecologist who as Michael Tobis (who is a climate scientist) says, does not know much about the climate, and does not do science, but engages in "manipulative BS." As Tobis says, he is a denialist - he uses the same argumentative strategy as denialists on the other side. The last 2 links are point by point refutations of McPherson and the "methane doom" argument.

https://rationalwiki.org/wiki/Guy_McPherson

<https://fractalplanet.wordpress.com/2014/02/17/how-guy-mcpherson-gets-it-wrong/>

<http://planet3.org/2014/03/13/mcphersons-evidence-that-doom-doom-doom/>

I'm certainly not a climate scientist, but UW Atmospheric Sciences (Cliff Mass's department) is one of the best in country, and there are a large number of actual climate scientists there whose judgment I would trust on McPherson's work. As far as I can tell, there is no legitimate climate scientist who thinks this material is not nonsense. If you can find a single UW climate scientist who thinks this material is legitimate, let me know.

Jem Bendell is not a scientist at all, he is a business school professor.

A club member

March 22, 2019 12:57 PM

...

A club member writes:

Also, if you look at RationalWiki, McPherson has a long history of laughably wrong predictions.

March 22, 2019 12:59 PM

No, Guy Mcpherson is not the principal source of the thesis entertained in the writeup. I had never heard of him until a few weeks ago. He is referenced because of his admittedly outlier position, one that, for a better or worse, some are compelled to take.

I've followed the science of this topic for decades and watched it develop. It does have an alarming trajectory. (Not just in itself but in conjunction with science in other fields, notably cognitive neuroscience, specifically, Tali Sharot's finding that we are hardwired to distort reality in favor of what makes us feel good—and who can argue that doesn't conduce to survival in the short term? Most of the time being upbeat is good for us. But it is a scary finding when conjoined with questions about our ability to handle *singular* experiences such as those having to do with long term survival or social collapse or extinction.)

Do I believe McPherson? He's recently said in one of his many interviews on youtube that we have something like eight years before the last human dies. That seems, on its face, implausible. But there is a hole in our climate knowledge in which claims like McPherson's find harbor—as even Michael Mann and Cliff Mass, just to name two experts, admit or imply: in fact, why would they ask for more research funding if they didn't believe there was anything new to learn that might fill in this hole? There's *just enough science or lack thereof* to make McPherson's speculations *possible*, though not plausible. Philosophically, there's a big difference between logical *possibility* and *probability*. Ordinarily, strict logical possibility applies to claims that don't violate basic rules of thought: they are not self-contradictory the way a claim that someone is a married bachelor does. The claim “there are as yet undiscovered unicorns somewhere on the planet” is not logically impossible, however improbable, given what we know about zoology.

However, I will argue uncertainty on issues that are “live,” “momentous” and “forced,” (as William James famously described how one may perceive whether to believe in God as in Pascal's Wager) is all it takes to justify consideration of consequences seriously from a philosophical point of view. I will return to this point momentarily.

Do I believe the mainstream “cool heads” in the links you sent me? There are reasons to be skeptical of them, too, which I will also address shortly.

(I was looking for some criticism on the Internet of views like McPherson's. So thanks for supplying some. I will add them to the list of resources.)

As a non-scientist, I have to—at least initially—judge extraordinary claims by scientists by their plausibility, i.e., their coherence with everything else I know or suspect. I am also obliged to be skeptical of scientists and other “experts” overstepping their bounds *for the very same reasons*. McPherson is a case in point. But there are many others. Cliff Mass and Michael Mann may be included. They have *translucent* agendas. If only they would stick to science... and leave its interpretation to others with more expertise in human agendas, things might be clearer.

Should we discount people with extreme views at either end? Maybe. Should we then kowtow to the mainstream? I don't think so. Cliff Mass, as you remind me, is a climate scientist. (He was fun to listen to on the radio many years ago, partly because of his penchant for debunking myths.) The atmospheric sciences department at the UW is one of the best in the nation, you note. (The University of Arizona once employed McPherson as an ecologist, now he deals in climate quackery (maybe). Does that make all the scientists at his former department at the University of Arizona quacks?) What is the UW's the department of atmospheric science's prestige supposed to suggest? That Cliff Mass is right? I think it means that Mass and his department are to be taken seriously when they opine about atmospheric science but not especially so when they tell us not to worry about how to deal with possible social collapse whether near term or not, climate-related or not.

Are you suggesting some general principle of, or epistemic virtue in, hueing to the middle ground on any issue? Aristotle-like? *On average this may be optimal on evolutionary grounds*, as cognitive neuroscientist [Tali Sharot says](#). She reasonably indicates there are good evolutionary reasons why a mechanism for optimism is hard-wired into our brains. It has been by and large conducive to our survival thus far. There is ample evidence that "[looking on the bright side](#)" is often a self-fulfilling prophecy. Anything conducive to that is likely naturally selected for, usually.

Non-extinction, as is clear from the fossil record, however, is not.

By and large, the middle ground on a speculative thesis even with suggestive evidence is a safe place to be. *Until it isn't*. A singularity—something that happens too fast for our evolved adaptive impulses to contend with—is not going to be found out through experience until it is too late. There is no reason, other than blatant anthropocentrism, to think that the course of nature will pull its punches so as to give science a chance to catch its breath.

Cliff Mass is *just* a climate scientist. McPherson is *just* an ecologist. They may be good or not good at what they do. That is to be judged their peers. Their peers in climate science and ecology, respectively. But everything they say is to be taken—by a philosopher or the person on the street—with a grain of salt. Neither is in a position to evaluate with any authority what *attitude* we *should* have or action we *should* take in response to whatever "facts," as scientists, they are compelled by all-too-human forces to present us. That would be governed by values of the (hopefully) critical thinkers that attend to them.

The principal argument of the writeup is

1. There is a possible world in which the effects of climate change will have catastrophic effects in the next few decades (as opposed to century or centuries as was, until recently, the consensus).
2. Working out the consequences of possible worlds on human interests is a very standard philosophical project. (It's been a feature of philosophy since Plato's *Republic*.)
3. Supposing something of the more dire predictions of many experts prove to be true, it is rational to consider how we should react.

The thesis is not that these dire consequences are inevitable or likely or neither. Judgment on probabilities should be rooted in empirical investigation. *That* is properly scientific work. But if the present evidence suggests even a low likelihood of those consequences, there is little that science *untainted by philosophy or fear* has to offer about the attitude we should take to the consequences. If scientists like McPherson or Mass or Mann want to armchair philosophize like the rest of us, that's ok; it's only human for them to slip into that. But, as a philosopher, I expect only varying probabilities about empirical propositions from them, not advice about what to do in light of those probabilities. That would require consultation with experts in many other disciplines: from literary critics to ex-business professors.¹¹

Jem Bendell is not a climate scientist. So? His qualifications for saying something on the topic of what may happen to human social institutions in the event of climate induced disaster are that he has made a career of mediating between science and private and public policy makers. These policy makers, most of whom are not scientists, will have more impact than scientists will on the questions at issue here. Maybe that's unfortunate, but, sadly, likely.

A club member writes:

You may want to consider showing this video as it raises an interesting issue of how the false arctic methane bomb material may have the same effect as climate change denialism

[Clip of climatologist/geophysicist Michael Mann on methane and catastrophism]

<https://www.youtube.com/watch?v=LifcMZyCYmc>

March 22, 2019 8:54 PM

Notes on the Michael Mann clip:

¹¹ Charles Mudede and Jem Bendell, respectively—just to mention two I've run across.

Climatologist and geophysicist Michael Mann offers his view on those he calls “catastrophists” who think the end is near and “there is nothing we can do about it.” He suggests that these catastrophists are in league (whether aware of it or not) with the more traditional group of head-in-the-sand climate change deniers. Both groups are, in effect, out to dissuade us from taking informed action to mitigate carbon emissions. (Supposedly, the catastrophists because they think our goose is cooked thanks to runaway methane, and the climate change deniers because they are too wedded to old ways, and, moreover, they think themselves tough human stock who can “weather” whatever nature can throw at us. Their *left inferior frontal gyrus* is intact and working just fine, thank you!)

Mann fits the mold of one who would hesitate to yell “fire” in a crowded theater even if he had *some* evidence it might be true. Why? Because such alarmism might discourage theater goers from having culturally enriching experiences. Wait until we know more, he implies.

What we should be doing, I infer from Mann’s status and tone, is pursuing normal science to get a real handle on what is happening in climate change. This means continuing or, better, increasing funding for scientific study of the role of methane (in particular) so that we can make constructive and informed policy decisions regarding its effects and mitigation. Cliff Mass also makes the same case in his posting where he mentions the still many unknowns surrounding the methane debate. In sum, we need more science...

Things to note: there is no argument from here that climate science is not important or that it shouldn’t be well-funded. However, *if, again, if* there is any plausibility in the methane argument, particularly regarding *the speed* of its consequences, then there is a case to be made (and perhaps this, too, enters the thinking of scientists like Mass and Mann) that significant resources should be diverted to adaptation.

Diverted from the kind of science they do? It must occur to them. Again, the science behind the possible success of mitigation efforts isn’t there and the magnitude, if not the inductive plausibility, of the threat is great. Social collapse is a very bad thing. It may be worse than extinction in the sense that the final stages of dying may be worse than being dead.

...

Michael Tobin, whom you cite, once upon a time studied atmospheric and oceanic science and even did some actual science, but he’s been [a software developer since 2000](#). Why should I believe him more than [Peter Wadham](#) or [Bjørn Lomborg](#) (whom Tobin also takes aim at)? A (former) climate scientist (now software developer/blogger) talking political science? Can we not expect bullshit? Expertise at bullshit should be left to politicians, why must climate

scientists get involved? Tobin cites [Scott Johnson at Fractal Planet](#) who returns the citation and who, in turn, cites Chris Colose at Skeptical Science and at the end of [Colose's post](#) is a very long interesting discussion involving many who appear to be more than merely knowledgeable but actual practicing scientists in relevant fields.

What is striking about the discussion at all three sites (Tobin's, Scott Johnson's Fractalplanet, and Colose's own) is that *there is no clear consensus as to the success of Colose's attempt to debunk the runaway methane argument*. Quite the opposite. There's much there for you no matter which side of the fierce *scientific* debate attracts you. (As there *should* be. Proper science is in the knowledge-obsolescence business. Otherwise, we may as well go back to dogma, to Bible talk.)

The original posts were a long time ago in the climate science world: 2013. The debate has become fiercer in the more recent comments. Can you point me to anything more current where there is a semblance of consensus? Science, I mean, not scientists opining on what others should *feel* about their results, such as Michael Mann. (At least, that's what he does in the clip you sent.) I happen to agree with Mann's distinctions and, at least, the plausibility of what he is saying when he remarks about the catastrophists (though I would tone it down to "alarmists"), namely, that they *may* lend succor to the classic deniers. People can be *that* stupid. I just don't need a climatologists to inform me of it. He's making a basic claim about the social psychology of knowledge workers and mongers. *Not about climate or geophysics*, his area of expertise.

Again, the lesson here is not that people like McPherson are right but that his critics are (or were then) in disarray. So what is the takeaway for a literate non-scientist supposed to be? Where do you derive your confidence? Surely, not from these guys.

Cliff Mass, like Mann, makes sensible claims [in this post](#) about how important government funding and support are to getting the relevant facts down (there's much we still don't know, he reminds us) as well as how both the climate change deniers on one side and the enough-already-we're-doomed-let's-prepare-for-the-end crew, on the other, are making themselves obstacles to this constructive end.

Two things:

1. Mass is translucently making a case that work like his should be funded forever, or at least indefinitely. Why would one think that? Because—will there *ever be a time* when we will know all we need to know about the climate? (Or any other scientific pursuit, for that matter?) It stands to reason that the claims of both deniers and enoughers are not conducive to a never-ending agenda. The deniers because they are stupid and cheap. The enoughers because

they are running scared and want company. The extremes of both would cut Mass's funding, and the less extreme would divert some of it.

2. Charles Mudede—not a scientist just a discerning local cultural critic—has remarked a kind of ideology (as well as carbon), specifically, [in the atmosphere around Cliff Mass](#). More below about this, shortly.

None of the serious thinkers on climate change I take my cues from, such as Rupert Read or Jem Bendell, are suggesting we stop funding climate science. I think they are just suggesting we need to start giving thought to *the near incomprehensible*—that, as a civilization, we may be in for hard times sooner than expected, and hope that McPherson will, once again, like all the times before, be wrong.

Mudede's analogy

In commenting on the ideology around Cliff Mass, [Charles Mudede offers](#) an insightful analogy that may help clarify the decision problem facing us about climate change. He invokes a variant Pascal's Wager, the original *decision-under-uncertainty-with-singularity* matrix and suggests that our situation vis-a-vis social collapse/extinction is like Pascal's dilemma about whether to believe or not to believe in God. I will develop the wager here as it applies to climate alarmism and adaptationism (of the sort Bendell discusses):

1.

Suppose you believe the “enoughers” or “alarmists” or “catastrophists.” And then it turns out you got all worked up about nothing except, maybe, that your distant descendants, a century off, will have a hard time, but not catastrophically so. There will be time to make it less bad for them. Maybe, after all, the methane stays under the ice, or diffuses more rapidly than doomsayers think, or gets eaten up by friendly microbes, or there are other sulfurous gasses released that actually counteract warming... Then, too, technology is racing onward. There is no shortage of ideas. Maybe we construct mirrors in space to deflect just the right amount of the sun's rays. Maybe we succeed in scaling up giant carbon-sucking vacuum machines that sequester the stuff into something useful or at least inert... Anyway, it turns out not to be the end of the world, rather, something our species can cope with and come out of the other end ready for more, as the evolutionary and historical record shows we have already a few times in the past.

Does this mean you shouldn't need to do anything now? Wouldn't it still be rational to act on the assumption of the worst? Ramp up mitigation measures *and*, just in case, adaptation planning? Since we are deciding under conditions of uncertainty, it seems it would be rational even if the doomsayers are wrong. As rational as buying catastrophic medical insurance, say. You might never need it, still... But, yes, it does cost you something to make these efforts, something *finite* and measurable.

2.

Again, suppose you believe the “enoughers,” “alarmists,” or “catastrophists.” And they are right! Having wisely done the best you could do mitigation-wise *and* prepared for the worst, you are positioned as well as could be expected for hell on earth. Perhaps we can devise a plan for at least *some* of us to die gracefully—at the end of a period longer than would be the case had we never made adaptation plans. (Perhaps, even, a fraction of our numbers will linger on indefinitely under abject conditions, huddled near the polar regions. Cockroaches survived whatever did in the dinosaurs. Surely, we are as resourceful as cockroaches? Right? Maybe, after a few generations, there will be only incredible myths about a once glorious civilization. Maybe no one will take these stories seriously... Can't say for sure.)

Though not always, it *has* happened that we have demonstrated values that transcended our physical existence. People, some, are known to have lived as though much more than the duration of their particular lives mattered. Most of us wish for a peaceful or graceful death. We do not *rationaly* seek immortality. We know there are things we can do before death that can increase the likelihood of peace and grace at the end. Going out kicking and screaming is, it seems, something to avoid even if we can't avoid going out. So adaptationists suggest.

3.

Now, suppose you *don't* believe the “enoughers,” “alarmists,” or “catastrophists.” These fear-driven, wolf-cryers merely represent the dregs of social irrationality, which, for some reason natural selection has not *fully* succeeded in getting out of our genetic inheritance. (As a certain sector of the academic mainstream indicate.¹²) But despite their stupidity and against all reason, suppose they are right?...

Nature betrays us. We are consigned to hell despite our temperance in speculation and calculated optimism. It's just not fair!.. Nevertheless, we always knew in our bones that nature was always indifferent to our long term survival. And now we discover that a little sector of the brain, the *left inferior frontal gyrus*, was naturally selected for this function: to dupe us into thinking nature, the reality external to our vanities, had our best interest in mind—when, in

¹² Michael Mann and Cliff Mass, for example.

fact, we were never meant to be more than a passing fad. An experiment in great hubris as dinosaurs were, in their time, in physical size. The natural world loses interest in us. Just like that. Cold, cruel nature! (To anthropomorphize with abandon. Can't help it. It's what we do.) We always had an expiration date. Nature was *never* our friend.

4.

Finally, suppose you *don't* believe the “enoughers,” “alarmists,” or “catastrophists.” *And they are wrong! Yea!* We manage by luck or engenuity or both to deal with climate change and come out on the other side triumphant. As in H. G. Wells' story “The War of the Worlds,” some ravenous carboning-eating microbe comes out of nowhere to kill off the “methane dragon.” Or, we learn (despite our bad track record in such efforts) how to rapidly decarbonize the atmosphere, and through (improbable) widespread awakening and (unprecedented) concerted effort we alter all our bad habits (at scale). Thus, perhaps chastened a bit, we dodge a bullet. Our gain is recognizable. We survive another onslaught at putting an end to civilization. It's happened before—our surviving near-extinction events. We live to die another day.

Decision-under-uncertainty-with-singularity matrix: climate

	Adaptationists are wrong	Adaptationists are right
Heed adaptationists	1. A finite measure of resources are wasted, but the status quo is extended.	2. A graceful exit seems more likely, or at least we model virtue right up to the point it ceases to matter.
Don't heed adaptationists	4. We live to die another day (unless we are transhumanists). The status quo is extended.	3. “Social collapse inevitable, catastrophe probable, extinction possible.” ~Jem Bendell

A few things to notice:

In the **first** “belief” scenario, our loss from being too cautious is *finite*, a waste in hindsight for sure, but water under the bridge. At worst, we get over it. At best, we learn a few things.

In the **second** “belief” scenario, where we do what we can to mitigate social collapse, warning of which we did our best to heed, we pass with time to process our loss and tidy somewhat our affairs, and leave, if lucky, a trace for future civilizations to admire.

In the “non-belief” **third** scenario, we go out like deer in the headlights, our last wide-eyed thoughts, never knowing what hit us—or believing it. A bit like a dinosaur munching ferns as a

brightness lit the sky or as the days grew darker and the air thicker with particulates from distant ruptures of the earth's crust.

And finally, the “non-belief” **fourth** scenario, we luck out. Again. Wiser for it?

The third possibility, we'll say, is the worst. Because it adds insult to injury. The poor dinosaurs were not humiliated before being wiped out. We likely will experience humiliation, our high cognitive expectations and self-assessments assure it. *Then* be wiped out.

The second, the “alarmists” suggest, is our best bet. Expect the worst, hope for the best. “Go placidly amid the noise and haste,” to quote Ehrmann's “Desiderata.” Be responsible right up the end. Because it will help you materially? Not likely. Spiritually? Who knows. Rather, because we will cut a nicer figure to the extent anyone will ever know or care that we existed.

In the first and fourth, we live to bide more time. The status quo persists. Any confidence we accrue from having beat the odds will set us up for a harder fall later. But *carpe diem* is a rational stance, no doubt about it¹³. Nothing about this decision-under-uncertainty matrix proves anything about what will actually happen.

But the most interesting thing to note is:

The singularity

For comparison, here is the decision matrix for Pascal's Wager.¹⁴ (His assumption in the wager is that the God in question will reward believers with eternal bliss and consign to eternal torment non-believers. You don't have to accept this assumption, just entertain it, to get his point about how reason fares confronted with a singularity.)

¹³ “Is that all there is?” asked Peggy Lee [in a song](#).

¹⁴ *Pensées* (1670), part III, §233.

Decision-under-uncertainty-with-singularity matrix: Pascal's Wager

	God exists	God doesn't exist
Believe	<i>Infinite</i> bliss	A total waste of Sunday mornings, etc... still, a <i>finite</i> loss.
Don't believe	<i>Infinite</i> torment	A little lying, a few ill-gotten gains? Don't sweat it. It's all <i>finite</i> .

Pascal concludes that given the *mere possibility* (not certainty or even probability) of the existence of a god of *this* description, it behooves the rational person aware of the possibility to believe. Note that this is *not* a proof of the existence of such a god, nor that if your hedonic schedule is different, it would be rational for you to believe. The point of the wager is that *only* if your hedonic schedule is typical *and* you are rational, does it make perfect sense to believe in this god. If you believe *and* there is a god like this, you stand to gain vastly; if no god, you lose modestly. If you don't believe *and* there is a god like this, you lose big time; if no god, you gain modestly.

But this is not quite right... This “vastly” or “big time” talk, I mean. So put, the wager is a banal everyday calculation.

What makes Pascal's Wager philosophically interesting is the presence of a *singularity* in the calculation: the incomprehensible finality of foreverness, infinity, eternal... *What is that? What does that mean? Whatever it is, it is not calculable in human experience.* Pascal suggests it trumps all attempts at rational defeat. It marks a boundary of reason. A mere finite loss or gain is as *nothing* compared with an infinite quantity of either. Even if we can't conceive of what infinite bliss might mean, the upper left quadrant because it is *positive and infinite* voids the other three of significance. The bottom left quadrant, does the same because it is *negative and infinite*. Even if we don't actually believe or have the slightest inclination to believe, we are left, Pascal implies, *wanting* to believe.¹⁵

¹⁵ Worried about insincerity? “Go, then, and take holy water, and have masses said; belief will come and stupefy your scruples,” as William James put it (in *The Will to Believe*), commenting on Pascal. Psychologists must have in mind something along the same lines when [they say](#) a smile may help make you happier (even if you are depressed as hell). Did Pascal really take his wager argument seriously? It is not clear that he did since his hedonic schedule (ordered list of priorities reflecting fundamental values) probably wasn't typical. The idea of frightening yourself into believing in God doesn't fit well with what we know of the rest of his thinking and practice. *Real faith* requires believing in God *even if* you would be consigned to hell for doing so. That's more Pascalian. But we won't pursue this line of interpretation here...

Returning to the decision-under-uncertainty matrix surrounding whether to heed the adaptationist: there, too, we find a *singularity*—the embrace of the possibility of extinction or, perhaps, worse, total social collapse.

William James, commenting on Pascal's Wager, in "[The Will to Believe](#)" [as [explained in the IEP](#)]

argues that there are matters where the truth is in doubt and science is incapable of passing judgment as in the question of whether God exists. Where that choice is, in his terms, *live* (meaning that it seems of vital interest and value to us and engages us emotionally), *momentous* (meaning that it is non-trivial and has serious consequences), and *forced* (meaning that we *must* choose one way or the other and cannot simply sit on the fence or stand aside), then it is lawful, indeed even necessary for us to weigh the risks and evidence and choose.

The decision to prepare to adapt one's thinking and action to the possibility of total social collapse, it would seem, fits James' criteria: it is *live*, *forced*, and *momentous*.

Let's pause to consider extinction. Nothing like that has ever happened to us. And it will happen to us only once if and when it happens. And we know no other species that has shown immunity to the possibility. Species extinction is not like the death of an individual. We *know* people who have died. Unless we are deluded, we expect death will happen to each of us. We are *familiar* with its happening to others. *Extinction is not like death at all*. That's what makes extinction almost *incomprehensible*, as Rupert Read remarks in his talk. Stick it into a decision matrix and it sucks the air out of reason. Like Pascal's "infinity," it'll do a number on any calculation into which it is inserted. This is the import of Mudede's analogy. This is why it skews our calculations and does so rationally. Otherwise, there would be nothing philosophically interesting happening here.

Extinction talk is the most powerful talk there is. Eschatology rules all thinking about future events.¹⁶ It's this simple:

1. We either go on as we have, or
2. we are transformed until eventually we have only the faintest relation to what we are now, or

¹⁶ Except to those few who, like myself, have never fully convinced themselves that human beings existed in the first place, and so can't be *too* bothered to contemplate their going out of existence.

3. we cease being anything recognizable at all, the way living things do not resemble their thorough post-death decomposition.¹⁷

We have some knowledge of past. We have zero knowledge of the future. We have only inductive practices that have worked reasonably enough for purposes we have had up to now. They are based on that just mentioned knowledge we have of the past. We don't do science in the future. We have done some in the past and we are doing some now, all of it based on vintage or almost real time data. None of it on future experience.

Extinction is the total cessation of experience of beings like us. Extinction is a singularity if anything is.

But is extinction really the problem here? Not all of it.¹⁸ Is there something *worse* than extinction? Yes.

Social collapse. In the same way that, as individuals, we may fear death *less* than the process of dying, the experience that will precede death.

Perhaps we'll be euthanized in an instant or die in our sleep. But, barring that, we have a problem. Barring that, at species scale, social collapse will precede extinction. And social collapse is what adaptationists like Jem Bendell and Rupert Read are saying is *inevitable*. Extinction, they say, is *merely* possible. So much is—what there is—of good news.

Should we heed what adaptationists are saying?

More on the “singularity” idea: *singularities have no context*.

The original use of the notion is mathematical. It refers to an undefined or unique or aberration in logical or conceptual space. The classic example is:

¹⁷ So that even talk of “we” is moot. The [non-identity problem](#) looms to make such talk obsolete. Rupert Read talks of a “successor civilization.” I see a continuum between a “transformed” and a “successor” civilization, and so am inclined to lump them together in opposition to a totally different category of existent that may have only an academic connection to what came before: the way hyper-intelligent, non-biological AI may one day be related to us, as some transhumanists envision. Our regard for such will lack what William James meant by “live,” and failing that, cannot attain much in the way of momentousness or urgency.

¹⁸ In *Death and the Afterlife*, philosopher Samuel Scheffler considers the fact there is a literal *afterlife* that we, most of us—the living now, too soon to be dead—concern ourselves with. The life of living things that will outlive us matters to us. Their annihilation would damage the quality of *our* experience *now*. Listen to Scheffler [interviewed](#).

$$f(x) = \frac{1}{x}$$

There is a singularity at $x = 0$, where $f(x)$ seems to “explode” to $\pm\infty$, which is not defined beyond saying that “it is not defined.” “Explosions” are aberrations of “time” and “space,” both physical and conceptual. What can we make of $\pm\infty$?

An analogical exploitation of the idea is familiar to us from the context of AI talk. Wikipedia:

There are several objections to [Ray] Kurzweil’s singularitarianism and these even include criticisms from optimists within the A.I. field. For instance, [Pulitzer Prize](#) winning author [Douglas Hofstadter](#) argued that Kurweil’s predicted achievement of human-level A.I. by 2045 is not viable.^[13] Even [Gordon Moore](#), who is credited for introducing the [Moore’s Law](#) that predicated^[14] the notion of singularity, maintained that it will never occur.^[15] According to some observers, these criticisms do not diminish enthusiasm for singularity because it has assumed a quasi-religious response to the fear of death, allowing its adherents to enjoy the benefits of religion without its ontological burdens.^[13] Science journalist [John Horgan](#) provided more insights into this notion as he likened singularitarianism to a religion:

Let’s face it. The singularity is a religious rather than a scientific vision. The science-fiction writer Ken MacLeod has dubbed it “the rapture for nerds,” an allusion to the end-time, when Jesus whisks the faithful to heaven and leaves us sinners behind. Such yearning for transcendence, whether spiritual or technological, is all too understandable. Both as individuals and as a species, we face deadly serious problems, including terrorism, nuclear proliferation, overpopulation, poverty, famine, [environmental degradation](#), [climate change](#), [resource depletion](#), and [AIDS](#). Engineers and scientists should be helping us face the world’s problems and find solutions to them, rather than indulging in escapist, pseudoscientific fantasies like the singularity.^[16]

Kurzweil rejects this categorization, stating that his predictions about the singularity are driven by the data that increases in computational technology have been exponential in the past.^[17] He also stressed that critics who challenge his view mistakenly take an intuitive linear view of technological advancement.^[18]

...

Never mind Kurzweil, an interesting question for John Horgan would be what to make of a “deadly serious problem” incorporating a “singularity”?

Again, singularities have no context. Extinction—considered by its subject: *us*—has no context, civilizational collapse, none in recorded history.¹⁹ There have been local social collapses,²⁰ and we can extrapolate from them, but the existential experience of something near *total* civilizational collapse is nowhere for us.

Suppose, in line with this discussion of singularity in AI, we are attributing religious significance to our civilizational or species demise—meaning we are *special*, not like any other species that has ever existed, that our passing would be *objectively* lamentable (whatever coherence you may attach to the concept of “objectivity” used in this way).

Even so, extinction is one of the things species do. It’s normal. What’s the big deal? The earth will not be hurt by minor perturbations on its thin skin. It’s not like the sky is falling. It’s that, if the sky ever does fall, it’s not likely to be *on us*. We will have exited the scene by then.

Still, I think, it is rational to lament the pain and suffering that will attend the exit, its anticipation and process. That is what *total civilizational or social collapse* tries to gesture at.

Had we never existed, this would not be so. But it is too late for such indifference now.

Resources

Science and politics

[“The Rapid Decline Of The Natural World Is A Crisis Even Bigger Than Climate Change: A three-year UN-backed study from the Intergovernmental Science-Policy Platform On Biodiversity and Ecosystem Services has grim implications for the future of humanity,”](#) John Vidal, *Huffpost*, 03/15/2019.

[“Sharp rise in methane levels threatens world climate targets: Experts warn that failure to act risks spike in global temperatures”](#) Robin McKie, *The Guardian*, 17 Feb 2019.

¹⁹ Though there are in evolutionary history. There were “[bottlenecks](#)” in that history when we, as a species, *almost* didn’t make it.

²⁰ We have *current* examples in Yemen, Syria, and Venezuela. But the extreme imaginative resources to get from such instances to the singular notion of total civilizational collapse, without too much hysteries, are scarce.

[“New Climate Debate: How to Adapt to the End of the World: Researchers are thinking about social collapse and how to prepare for it,”](#) Christopher Flavelle, *Bloomberg Businessweek*, 26 September 2018.

[“Greta Thunberg, schoolgirl climate change warrior: ‘Some people can let things go. I can’t’,”](#) Jonathan Watts, *The Guardian*, 11 March 2019. (See her TED talk below.)

[“UN report: ‘Urgent action’ needed to protect human, environmental health,”](#) Brett Samuels, *The Hill*, 13 March 2019.

[“Atmospheric Methane,”](#) Wikipedia.

[“Toward Improved Discussions of Methane & Climate,”](#) (August 2013) by Chris Colose.

Video and podcast

[“This civilisation is finished: so what is to be done?,”](#) a highly recommended talk by Rupert Read, who has done work in the philosophy of science and the environment as well as on Kuhn and Wittgenstein. He is also a Green Party politician in the U.K.

[2018 Global Warming Movie](#) from [BerkeleyEarth](#).org where you can find graphically presented and up to date (including real time) data from temperature tracking stations worldwide. Berkeley Earth is one of a hand full of global temperature tracking organization which peer-review each other and coordinate with the IPCC. (The [Intergovernmental Panel on Climate Change](#) is the United Nations body for assessing the science related to climate change.)

[“The disarming case to act right now on climate change”](#) TED talk by Greta Thunberg, who, at 16 years old, has already made history on this topic.

[“The New Normal: Super Storms, High Tides and Sea Level Rise with John Englander,”](#) (April 2018). [Englander](#) is an expert on sea level rise, one element among many, associated with climate change.

[“Why it’s time to think about human extinction | Dr David Suzuki,”](#) Interview with Kerwin Rae, (December 2018). More about [Suzuki](#).

[“Unexpected Boost of Methane, Permafrost is Warming at a Global Scale,”](#) *Climate State*, Published on Jan 27, 2019.

[“Terrifying proof of global warming | 60 Minutes Australia,”](#) 60 Minutes Australia,
Published on Mar 28, 2019.

Scholarly

[“Will we know what counts as good leadership if Things Fall Apart? Questions prompted by Chinua Achebe’s novel,”](#) Jonathan Gosling, *Leadership*, 2017, Vol. 13(1) 35–47.

[“Deep Adaptation: A Map for Navigating Climate Tragedy”](#) This paper by sustainability and leadership Professor [Jem Bendell](#) has helped to galvanize the Adaptationist movement. It was refused publication in a scholarly journal because—not to put too fine a point on it—*it was too scary*. (Academic journals are *not* in the business of informing the general public of anything earth-shatteringly significant. They exist to serve careers. This paper fails to serve any career, as the author admits. Oddly, if the paper is right in its thesis, then, indeed, there will be few careers to serve.) So he put it up on the web. You can also listen to the paper as a [podcast](#).

Other

[Extinction Rebellion](#), “a socio-political movement intending to utilise nonviolent resistance in order to avert climate breakdown, halt biodiversity loss, and minimise the risk of human extinction and ecological collapse.” [Official site](#).

[“The Optimism Bias,”](#) Tali Sharot, *Current Biology*, Volume 21, Issue 23, 6 December 2011, Pages R941-R945. See also her [TED talk](#). If Sharot is right that 80% of us have brains that are so physically constructed that they filter out what doesn’t conduce to positive visions of ourselves or our futures, then we are at an epistemic disadvantage, most of us, when it comes to assessing evidence regarding decision-making *especially* in the face of dire information.

Appendix

These notes may be incorporated into the writeup—or not. This stuff may change daily...

A hopeful but possibly outdated [TED talk](#) (2016)

Methane science settled? Back in 2013?

<https://www.skepticalscience.com/toward-improved-discussions-methane.html>

Permafrost

<https://www.nationalgeographic.com/environment/2018/08/news-arctic-permafrost-may-thaw-faster-than-expected/>

...

Baum on the Long-Term Future of Human Civilisation

<https://philosophicaldisquisitions.blogspot.com/2019/03/55-baum-on-long-term-future-of-human.html>

Jem Bendall:

“Many people working in the climate field look to the Intergovernmental Panel on Climate Change (IPCC) to provide the calm and authoritative voice on this complicated subject. That is what I used to do, as it made sense as a busy person who wanted to have a quick way of “making the case” to others. However, given that the IPCC has proven over the past decades to be woefully inaccurate in the cautiousness of its predictions, I now agree with some of the most eminent climate scientists that the IPCC cannot be looked to for telling us what the situation is. That is why I spent a few weeks returning to primary sources in academic journals and research institute reports, and piecing together a perspective myself. Given the long time span it takes for data to appear in academic journals, I often turn to the information direct from research institutes and their individual experts. The result of that process follows below.”

[\[source\]](#)